Comments at DOE hearing on transfer of nuclear waste to Yucca Mt. Area in Nevada.
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This hearing today is to discuss the draft EIS & other data concerning the safety of a plan proposed by Congress to transfer irradiated fuel rods and other highly radioactive was that was mostly generated at
1... the 103 commercial reactors across the country to Yucca Mountain, Nevada. Analysis by the Dept. of Energy and others clearly show that this plan is severely flawed and that shipment of this waste anywhere is
2 ill-conceived, irrational and a reckless disregard for public safety. It seems Congress is much more concerned with stockpiled radioactive waste storage problems of utilities with nuclear plants than the public in the 43 states that would have shipments moving through their communities or those near the Nevada dump site. Could this be because of the many campaign contributions from various nuclear industries and utilities? Congress is working overtime devising more subsidies for these business. But nuclear power remains so unsound financially and technologically that no reactors have been built in over 25 years.

3 There are many reasons why this proposal is premature and should be rejected. All proposed methods of processing or handling such reactor waste in the sixty years since the beginning of the nuclear age have failed. There are now over 70,000 metric tons of this high level waste. DOE estimates this would require shipments over 30 years, about 50,000 if mostly by truck or about 15,000 if mostly by train. However, the storage and shipment containers have not yet been designed and tested for safety. It is known that currently used casks leak radiation thus making handling or accidents a major risk. Estimates are that a shipment from the 79 commercial reactors in the eastern half of the country would go through St. Louis on route to Nevada every other day. This is absolutely not very wise or prudent when neither the storage casks or a workable, tested design for proposed underground storage repository in Nevada has been shown to be
4 feasible or even possible. Yet Congress still wants to move this hazardous material to interim parking storage at Yucca Mt. Until some more permanent method of storage and isolation is possibly devised this is unsound. Seems like the other 49 states dumped on Nevada to get the unwanted stuff out of their backyard and out of mind in the desert already contaminated from bomb tests.

5 There are also very serious concerns about whether an underground storage facility can ever be safely designed that could contain and isolate this highly radioactive waste for the necessary tens to hundreds of thousands of years to allow enough decay of the fissile materials. Both DOE and other
6 scientists find many problems. There is extensive geologic data that the Yucca Mt. area could not keep waste isolated. The area is highly seismically active, contains many volcanoes with possible magma
7 pockets, and has highly fractured rock that would allow flow of both water and radioactive materials. It is known that the steel of the containment canisters, glass used to vitrify and stabilize the waste, and the brittle cladding from the fuel rods will not remain intact for more than a few centuries in any known storage
8... method. Analysis by DOE scientists show that thermally fissile materials such as this reactor waste can disperse into surrounding rock by either natural or unnatural processes. Bowman & Venneri have conclude that subcritical concentrations underground could migrate into regions of critical autocatalytic self-enhancing chain reactions. That is explode in more simpler lay terms. This could occur with all types of waste from all types of reactor or bomb production processes. This nuclear process would be largely dependent on the amounts of fissile materials and moderation of the reaction neutrons by water or rock surrounding materials. Feedback mechanisms could be either positive or negative depending on the amounts of water and the shape and concentration of the dispersed radioactive waste materials. Calculations show that while natural uranium deposits have negative feedback stopping the nuclear reaction as water is driven off as steam. They and others find, however, that autocatalytic positive feedback that reaches critically is increasingly possible over time in the presence of water and plutonium and that this can cause underground nuclear explosions with a force of possibly a few hundred tons. The known rock fractures in the Yucca Mt. region could enhance both migration of water and fissile material, thus making such chain reactions more likely, and facilitates the venting of plutonium and other radioactive materials into the air or contamination of underground aquifers. This dispersion could be slow and gradual. But worse would be rapid dispersal due to natural causes such as volcanic action, earthquakes or even modest

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8 cont. geologic plate shifts or due to accidents caused by human activity such as mining or later attempts to recover the buried materials.

9 All the above analysis shows severe problems with any underground repository method and particularly shows absurdity of Congressional bills that exempt Yucca Mountain from environmental standards so that it remains the designated nuclear waste repository area. I can only agree with comments made by Senator Bryan during March 1995 debates stating:

> "I am shocked and outraged that the Dept. of Energy and the nuclear power industry continues to force acceptance of a dump in Nevada when it appears that its own scientists cannot reach consensus on the most fundamental safety questions related to nuclear waste. The scientific community is still questioning the very premise of geologic storage. Yet the DOE long standing official position is that nuclear waste storage at Yucca Mountain is a political problem not a technical one."

I can only add that I am appalled but not really surprised that so many in Congress have remained so crassly insensitive to the safety of their supposed constituents, with the possible exception of just before elections, and to the daunting technical problems they repeatedly force on federal agencies like DOE and

1 cont. the liability and costs to us taxpayers by mandating a national nuclear waste repository. The safest and most sensible action until a proven repository method is developed would be dry casks storage at the nuclear plants and even closing them down if such storage space is no longer available so that more waste is not produced. There is no logic is a shell game of moving 70,000 tons of highly radioactive waste through communities that have little ability to cope with possible and extreme likelihood accidents for over thirty years.

Thank you and I hope the federal government seriously considers all comments and other objections to this proposal.